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EXAMINER

ISMAIL, SHAWKI SAIF

ART UNIT	PAPER NUMBER
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2155

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/985,676

Applicant(s)

EDWARD W. KOHLER JR

Examiner

Shawki S. Ismail

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-12 and 19-23 is/are pending in the application.
- 4a) Of the above claim(s) 1-2, 4-8 and 13-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-12 and 19-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

RESPONSE TO AMENDMENT

1. This communication is in response to the applicant's Election received on December 4, 2006.

Claims 9-12 and 19-23 were elected with traverse

Claims 9-12 and 19-23 are pending.

Election/Restrictions

2. Applicant's election with traverse of claims 9-12 and 19-23 in the reply filed on December 4, 2006 is acknowledged. The traversal is on the ground(s) that the inventions are not construed as being distinct. This is not found persuasive because the claims are directed to distinct inventions (refer to the restriction mailed out on November 2, 2006 for a detailed explanation of how they are distinct."

The requirement is still deemed proper and is therefore made FINAL.

This application contains claim 1-2, 4-8, and 13-18 drawn to an invention nonelected with traverse in the reply received on December 4, 2006. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

The New Grounds of Rejection

3. Applicant's amendment and arguments received on February 24, 2006 have been fully considered, however they are deemed to be moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9-12 and 19-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claims 9, the limitations set forth in the preamble, more specifically the conversion of the packet is completely missing from the body of the claim. Therefore, the scope of the claim set forth by the preamble is not properly met.

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: the halted processing of the data structure is omitted and is referred to only in the monitoring step, however, the halted processing was never mentioned prior to the monitoring step to actually illustrates that the process is halted.

Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 11 recites "conducting accounting, filtering, or policing functions on the data structures during said performing". Clarification is needed to indicate what said performing represents.

The term "substantially" in claim 19 is a relative term which renders the claim indefinite. The term "substantially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: the discontinuous processing of the one data item is omitted. The discontinuous processing was never mentioned to actually illustrates how the process is in fact discontinuous.

Claim 23 recites the limitation "the processing of the other data structure is halted". There is insufficient antecedent basis for this limitation in the claim.

Claim 23 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 23 recites "wherein the requesting suspends a processing of one of the data structures to form partial results produced by the suspended processing" It is unclear what the partial results entail, are they partial results from received data associated with the requesting step or is it partial result associated with partially generated routing information. Appropriate clarification is required.

These are representative examples. Applicants should review all pending claims for similar problems. Other dependent claims, which are not specifically cited above are also rejected because of the deviancies of its respective parent claim.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 19 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

MPEP 2106 IV.B.2.(b)

A claim that requires one or more acts to be performed defines a process. However, not all processes are statutory under 35 U.S.C. 101. Schrader, 22 F.3d at 296, 30 USPQ2d at 1460. To be statutory, a claimed computer-related process must either: (A) result in a physical transformation outside the computer for which a practical application in the technological arts is either disclosed in the specification or would have been known to a skilled artisan, or (B) be limited to a practical application within the technological arts.

Claims 19-22, in view of the above cited MPEP sections, are not statutory because they merely recite a number of elements without producing any tangible result and/or being limited to a practical application within the technological arts.

“TANGIBLE RESULT”

The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more than a § 101 judicial exception, in that the process claim must set forth a practical application of that § 101 judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77 (invention ineligible because had “no substantial practical application.”). “[A]n application of a law of nature or mathematical formula to a ... process may well be deserving of patent protection.”

Diehr, 450 U.S. at 187, 209 USPQ at 8 (emphasis added); see also Corning, 56 U.S. (15 How.) at 268, 14 L.Ed. 683 .

Claims 19-22, in view of the above-cited MPEP sections, is not statutory because the claims do not produce any *tangible results*. The claims merely recite elements for doing a certain function but do not perform these functions.

Claim Rejections - 35 USC §102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

7. Claims 9-12 and 19-23, are rejected under 35 U.S.C. 102(e) as being anticipated by **Ferguson et al.**, (Ferguson) U.S. Patent No. **6,798,777**.

8. As to claim 9, Ferguson teaches a method for routing packets received at a network device using corresponding data structures into which the received packets are converted, the method comprising:

Forwarding, using forwarding logic of the network device, the data structures to a plurality of processing engines of the network device, (col. 12, lines 50-60);

Monitoring, by a monitor of the network device, respective processing states of the plurality of processing engines to identify partial processing results based on halted

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processing of the plurality of data structures by the processing engines in advance of a need for additional processing information for continued processing of the data structure (col. 2, line 64 – col. 3, line 11);

performing, at each processing engine, concurrent route lookups for at least two of the data structures using the partial processing results for the data structures (col. 12, lines 50-60);

modifying, at the processing engines, the data structures based on the route lookups (col. 17, lines 22-45); and

routing, using a switch fabric of the network device, the packets based on the modified data structure (col. 17, lines 22-45).

9. As to claim 10, Ferguson teaches the method of claim 9, further comprising:
Requesting, by the processing engines, the additional processing information from one or more agents associated with the processing engines, wherein a prospect of the requesting causes the halted processing. (col. 17, lines 22-45).

10. As to claim 11, Ferguson teaches the method of claim 9, further comprising:
conducting accounting, filtering, or policing functions on the data structures during said performing (col. 14, lines 1-7, and col. 2, lines 40-54).

11. As to claim 12, Ferguson teaches the method of claim 9, wherein said performing includes:

performing, at each processing; engine, concurrent route lookups for up to four different data structures (col. 12, lines 50-60).

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12. As to claim 19, Ferguson teaches a system for performing route lookups for processing a plurality of data items, comprising:

a data processing portion configured to process one data item at a time and to pipeline data requests to memory that stores information needed for the processing to thereby substantially eliminate idle time of the data processing portion associated with discontinuous processing of the one data item due to a request for the stored information (col. 2, line 64 – col. 3, line 11);

a control state portion to monitor operation of the data processing portion by receiving state information related to a partial result produced from the discontinuous processing of the one data item by the data processing portion based on a prospective request for the stored information (col. 2, line 64 – col. 3, line 11);

a buffer configured to store the partial result (col. 17, lines 13-45); and

a controller configured to load the partial result from the data processing portion into the buffer and to input another data item into the data processing portion for processing while requested data is obtained for the one data item (col. 22, lines 13-25).

13. As to claim 20, Ferguson teaches system of claim 19, further comprising:

an output buffer configured to store a completely processed data item from the data processing portion (col. 1, lines 56-67).

14. As to claim 21, Ferguson teaches the system of claim 19, further comprising:

an input buffer configured to store a plurality of data items to be processed by the data processing portion (col. 1, lines 56-67).

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15. As to claim 22, Ferguson teaches the system of claim 19, wherein the data processing portion includes:

a data processor configured to determine a route associated with a data item (col. 43 line 58 – col. 44, line 7), and wherein the control state portion includes:

a state machine configured to interact with the data processing portion and to inform the controller when the processing portion will be requesting data from the memory (col. 43 line 58 – col. 44, line 7).

16. As to claim 23, Ferguson teaches a system, comprising:

means for processing data structures to generate routing information and for requesting information from a source external to the means for processing when the information is projected to be needed to accomplish the processing of the data structures, wherein the requesting suspends a processing of one of the data structures to form partial results produced by the suspended processing (col. 2, line 64 – col. 3, line 11);:

means for monitoring operation of the means for processing via state information associated with the partial results produced by the means for processing (col. 2, line 64 – col. 3, line 11);

means for storing the partial results from the means for processing at least until such time as the requested information becomes available to the means for processing (col. 17, lines 22-46); and

means for loading the partial results into the means for storing and loading another data structure into the means for processing upon the suspension of the

processing of the one data structure, and for loading the partial results into the means for processing after the requested information becomes available and the processing of the other data structure is halted (col. 17, lines 22-46).

Response to Arguments

17. Applicant's arguments have been fully considered but they are deemed to be moot in view of the new grounds of rejection.

18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shawki S Ismail whose telephone number is 571-272-3985. The examiner can normally be reached on M-F 8:30 - 5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached at 571-272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shawki Ismail
Patent Examiner
February 19, 2007


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